Pearson

Prentice Hall Mathematics Courses 1, 2, 3, and Algebra Readiness, Grades 6-8

Degree of Evidence regarding the Standards for Mathematical Practice:

Minimal Evidence

Summary of evidence:

- 1. **Make sense of problems and persevere in solving them**. This practice is especially underdeveloped. Typically, lessons are structured by providing a rule or procedure, followed by worked examples specifying precisely how to apply the rule. Then, practice problems that use that rule or procedure are provided. This structure permits few opportunities for students to engage in true problem solving as described in this standard.
- 2. **Reason abstractly and quantitatively**. There is little evidence of this practice throughout the sampled materials, although there is slightly more evidence in Course 1 and Course 2. The Activity Labs and Check for Understanding provide the best opportunities to integrate this practice, yet they do not go far enough; for example in sampled sections of Course 2, the measurement section better addresses this practice than the proportional relationship section. Even so, there are still inconsistencies in application of this practice. In most cases formulas are provided without any discussion about how those formulas are related to the attributes of the shape itself.
- 3. Construct viable arguments and critique the reasoning of others. There is limited evidence of this practice throughout the series. Where evidence exists, the practice is not fully developed; for example, the best place in the resource that supports this practice is found in the "Check Your Understanding" sections that precede the student exercises. In general these sections provide one or two opportunities for students to write about how or why some aspect of the mathematical concept is important, useful or relevant. There are also error analysis questions embedded in these sections, but they are lacking in depth, with few exceptions.
- 4. **Model with mathematics**. There is some evidence of this practice throughout the sampled materials, more strongly in evidence in Courses 2 and 3, yet not fully developed. The lesson structure was cited as a hindrance to this mathematical practice, since students rarely choose models; rather, they are shown the models and explicitly directed how to use them. For example, students are given an equation and told to make a table and a graph; there is a missed opportunity if students are not asked to reason and communicate about the connections between those representations as described in the standard.
- 5. **Use appropriate tools strategically.** This practice is particularly underdeveloped. In most cases, the students are told which tools to use and are not engaged in any discourse around the effectiveness of particular tools. In Course 2 and Algebra Readiness, the reviewers did not find any evidence of this practice in the sampled sections.
- 6. **Attend to precision.** There is little evidence of this practice throughout the sampled materials. This practice is partially developed in that examples use proper notation. Students are given few opportunities to communicate about the degree of precision needed for a given context or to critique the precision used by others, as described in the standard. There are no models provided in the Student Edition or Teacher Edition of possible mathematical discourse between teacher and student or student-to-student to serve as a model of communicating mathematics precisely.
- 7. **Look for and make use of structure**. Although somewhat more in evidence in Course 3, there is little evidence of this practice throughout the sampled materials, and there is no evidence of this practice in the sampled sections for Course 1. Even when in evidence, this practice is not fully developed; for example in Course 3, there is a missed opportunity to connect solutions of

Pythagorean theorem questions to the prior learning of estimating the value of a square root.
8. Look for and express regularity in repeated reasoning. This practice is underdeveloped. There is some evidence in Course 3; however, there is no evidence in the sampled sections of Course 1, Course 2, or Algebra Readiness.